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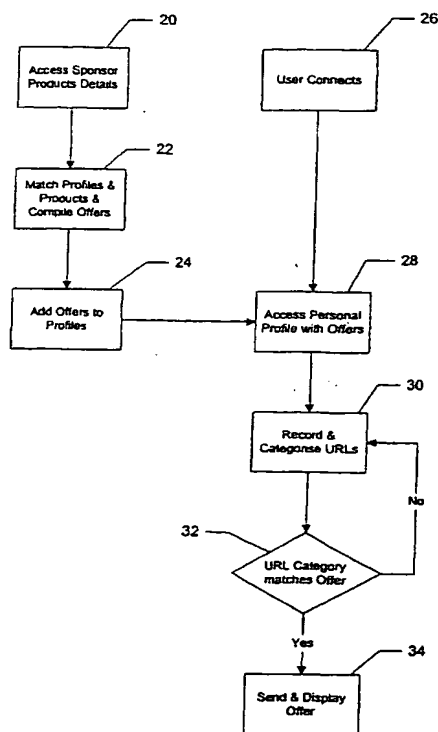
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(54) Title: A MESSAGING METHOD AND SYSTEM



(57) Abstract: A messaging system, including a database system storing personal preference information for the user and a plurality of advertising messages for the user on the basis of the preference information, and a switch system and web server system for recording and categorising locations of a communications network accessed by a user of the network as the locations are accessed, and sending one of the advertising messages to the user when the message matches a location category for a currently accessed location. A messaging method executed by the system sends advertising messages, that may include an offer for products or services, to the user when the probability of the user accepting the offer is high, as determined by the location, or web page on the Internet, that the user is currently accessing.

WO 01/09779 A1

- 1 -

## A MESSAGING METHOD AND SYSTEM

The present invention relates to a messaging method and system for a communications network, such as the Internet.

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Many Internet sites rely on advertising revenue to fund development and maintenance of the sites. Advertising revenue can also be used to support the infrastructure used to handle traffic to sites. To attract advertising revenue site publishers and infrastructure providers, such as Internet service providers (ISPs), need to be able to  
10 convince advertisers that advertisements being sent to Internet users are being viewed by the correct demographic or target audience. A number of techniques have been employed to try and achieve this.

Some sites, such as amazon.com, send and install a cookie file on a user's computer  
15 when the user visits the site. The site is then able to use the cookie file to determine when the user revisits the site and send advertisements to the user at different revisits. Other web sites, such as hotmail.com, require a user to log on to the site by entering unique personal details, such as a username and password, and the site maintains a limited profile on the user. When the user logs on, the site then sends advertisements based on the user's profile.

20

Another method involves the use of advertising servers that are referred to by links in advertisements on specific web pages. DoubleClick Inc, for example, enters into agreements with web site publishers for the placement of advertisements on the published sites, who are then considered to be affiliates. The ads have links to a DoubleClick  
25 advertising server that delivers the advertising content to a browser as part of the affiliate page requested by the browser.

All the above techniques however are either limited to a use on a specific web site or require specific code to be inserted into the pages of certain sites or affiliate sites. By  
30 attempting to monitor user behaviour on any specific site using known techniques, such as the delivery of a cookie file, is relatively simplistic and does not take into account all

- 2 -

activity of the user on the network during a session. The methods are executed at the client or a server hosting web pages and can be intrusive and cumbersome. It is desired to address the limitations associated with the prior art techniques or at least provide a useful alternative.

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In accordance with the present invention there is provided a messaging method executed by an access system for a communications network, said method including:

monitoring locations of a communications network accessed by a user of the network as said locations are accessed; and

10 sending an advertising message to said user, in response to access of at least one of said locations, said message being based on personal information stored for said user.

The present invention also provides claim a messaging system, including:

a database storing personal preference information for said user and a plurality of  
15 advertising messages for said user determined on the basis of said preference information;  
and

a switch system and web server system for recording and categorising locations of a communications network accessed by a user of the network as said locations are accessed, and sending one of said advertising messages to said user when the message  
20 matches a location category for a currently accessed location.

The present invention provides claim a communications access system having:

switch means and a web server system for monitoring locations of a communications network accessed by a user of the network as said locations are accessed;  
25 and

sending advertising messages, including an offer for products or services, to said user when the probability of said user accepting an offer of said message is high based on said monitoring and personal information.

- 3 -

A preferred embodiment of the present invention is hereinafter described, by way of example only with reference to the accompanying drawings, wherein:

Figure 1 is a block diagram of a preferred embodiment of a communications network access and messaging system; and

Figure 2 is a flow diagram of a preferred embodiment of a messaging method executed by the system.

A communications access system, as shown in Figure 1, includes a plurality of remote access servers (RASs) 4, a layer four or higher switch 6, a database server 8, a web server system 10 and a router 12. The RASs 4 are provided to allow the computers 14 of remote users to dial into the system using standard telecommunication lines and modems and connect to the input ports of the RASs 4, respectively. On connection to a port of a RAS 4, the RAS 4 and the user's computer 14 establish a unique TCP/IP session and the IP traffic for that session is switched by the switch 6. Once the user is authenticated or approved, the user's computer 14 is allowed to access requested data on the Internet 16. The web server system 10 is used to control pages presented to a user 14 connected to the RAS 4 and handle authentication using a member profile database maintained on the database server 8. A RADIUS (Remote Authentication Dial In User Service) authentication server 11 is also provided for use in authentication. As far as the user 14 is concerned, the equipment 4, 6, 8, 10, 11 and 12 of the access system is part of the Internet.

The equipment 4 to 12 preferably includes standard commercially available hardware and basic database, web server and Internet access software which is known to those skilled in the art and is used in the access systems of most ISPs. The equipment 4 to 12 then also includes unique program code to manage and control each session. The layer four or higher switch 6 is another exception. The switch 6 is normally used by ISPs to balance the traffic handled by the RASs 4. An example of a suitable layer four switch is the AceDirector AD3™ produced by Alteon WebSystems Inc. In the access system however the layer four switch 6 is used to connect users to the web server system 10 and control access to the Internet 16 for the users 14 on the basis of a limited number of access states encoded in the switch 6. The access system is the same as that described in the

- 4 -

specification of International Patent Application No. PCT/AU00/00418, herein incorporated by reference and referred to as "the access system specification". However the system further includes software components executed by either the database server 8 or the web server system 10 to execute the charging method described below. 5 Alternatively the unique program code and the equipment 4 to 12 could be substituted, entirely or in part, by unique integrated circuits, such as ASICs, to execute the same functions.

Parties wishing to send advertisements to users of the access system are able to 10 provide details of their products or services and any particular special offers or marketing information to the provider of the system. These details are then stored in a sponsor product database maintained by the database server 8. Additional information is also collected by the provider of the access system for the member profile database which holds personal information for each user of the system. The personal information stored includes:

- 15 (a) Personal details such as name, address and bank account numbers, such as credit card numbers and details. Sufficient details need to be stored in order to allow the system to include the details in a transaction message which can be sent to a transaction system, such as EFT network, to complete a commercial transaction in response to acceptance of an offer by the user.
- 20 (b) Personal interest and preference details for the user. This is information which is kept private and includes information provided by the user. The information may also be generated from data held in a member location record for the user which records locations access by the user.
- 25 (c) Marketing information relating to the user which can be sold or exchanged with other parties. This may include personal interest and preference information which the user can consent to being disclosed for marketing purposes. Again, this information could be compiled by processing the location data held in the member location record.

- 5 -

With the sponsor product database and the member profile database established as described above, an offer messaging procedure, as shown in Figure 2, can be executed by the system where details of the sponsored products or services are accessed from the sponsor product database at step 20. The accessed product information is then compared at step 22 with the profiles of users, respectively, held in the member profile database, at step 22. Using primarily the personal interest and preference information for a user contained in the user's profile it is determined whether there is any match with other types of products, services or offers accessed from the sponsor product database. If a match occurs, an offer message is compiled to send or display an advertisement in relation to a product or service. The offer message may simply be a HTTP message which instructs the web browser on the user's machine 14 to open a new browser window and directs that window to a web page stored on the web server system 10. The web page when transmitted to the user's machine 14 generates a display in the new browser window which conveys the product or service offer to the user. The offer message may also be delivered by insertion into data requested by the user. The offer can then be displayed with the requested data by the user's browser. Other mechanisms can also be used to send the offer message in real-time, ie immediately, or near real-time, ie within 3-5 minutes, such as by email and chat services. The user 14 can respond to the offer by selecting a location on the offer display to send a message back to the server system 10 to accept the offer. The server 10 is then able to access the commercial transaction details held for the user in the member profile database.

The offer messages which are compiled for the user are added to the user's profile at step 24 with condition data. The condition data is part of the offer message and designates a condition which needs to occur before the message is sent to the user. The condition data is important as it designates a time to send the message when the probability of the user accepting the offer is higher than normal or relatively high. For example, if the user is at a toy site and has accessed a location which allows the user to purchase a certain toy, the condition data can designate that the offer message is then to be sent if the offer message relates to a toy purchase. Also the manner in which the user is accessing locations is also monitored to determine a time when the user is most likely to be receptive

- 6 -

to an offer. For example, if the user is loading a web page into their browser every 30 to 40 seconds, then an offer should not be sent to the user to interrupt their rapid browsing. Instead the offer will be sent when there is a lull in the browsing activity of the user, for example if a page has not been accessed for a predetermined period of time, such as 1 to 5 minutes. Accordingly the user's behaviour is tracked for an entire TCP/IP session for the user by monitoring the users' activity on the network during the session, as described below.

The steps 20 to 24 of the messaging method can be executed whether users are offline or online, ie whether they are connected or not to the access system. When a user connects to the system at step 26, the user's personal profile is accessed from the member profile database, at step 28, with any stored offer messages. At steps 30, the locations accessed by the user on the Internet are recorded and added to the member location record. The access system does this by trapping the URLs of web sites accessed by the user and then converting them to a URL category or type, such as retailing children's products, children service provider, local clothing retailer, local clothing retailer purchase order, etc. The URL categories are constantly monitored at step 32 and if a category matches the condition data of an offer message stored in the user's personal profile, as determined at step 32, then the offer message is sent at step 34, to cause display of the offer as described above. If a match is not determined at step 32 then the operation reverts back to the monitoring step 30. Accordingly offer messages are delivered without the cooperation or permission of any specific web site publishers, or specific Internet application providers, eg chat services.

By monitoring the URLs and categorising them accurately, the system is able to ensure offer messages are sent when they are more likely to be accepted by users. This is achieved by a combination of matching offers with user profiles and then matching the offers with the location categories accessed. This allows the system to present advertisements for alternative products when a user is about to purchase another product. For example, if the user is accessing a location at amazon.com where the user is about to purchase a certain book, this can be detected by the messaging method so as to generate a

- 7 -

browser window which displays an offer for the same book by a competing book retailer or simply generate a browser window which accesses the site of the alternative book retailer.

Many modifications will be apparent for those skilled in the art without departing  
5 from the scope of the present invention as herein described with reference to the accompanying drawings.



- 8 -

CLAIMS:

1. A messaging method executed by an access system for a communications network, said method including:
  - 5 monitoring locations of a communications network accessed by a user of the network as said locations are accessed; and  
sending an advertising message to said user, in response to access of at least one of said locations, said message being based on personal information stored for said user.
- 10 2. A messaging method as claimed in claim 1, including processing said locations and said personal information to send said message when the probability of said user accepting an offer of said message is high.
3. A messaging method as claimed in claim 1; wherein said personal information
  - 15 includes preference information and a plurality of said advertising message for said user determined on the basis of said preference information, the messages including condition data for representing a condition for executing said sending, and said monitoring includes determining the existence of said condition.
- 20 4. A messaging method as claimed in claim 1, wherein said monitoring includes categorising said locations to assign location categories, respectively, on the basis of content accessed from said locations, and said sending includes sending said message on the basis of said categories and personal information.
- 25 5. A messaging method as claimed in claim 4, wherein said advertising message is sent when a location is accessed and said message includes the location category for the accessed location.
6. A messaging method as claimed in claim 5, wherein said personal information
  - 30 includes personal preference information and a plurality of said advertising messages compiled for said user on the basis of said preference information.

- 9 -

7. A messaging method as claimed in claim 6, wherein said personal information comprises a user profile and said plurality of messages match said user profile.
- 5 8. A messaging method as claimed in claim 7, wherein said method is executed by an infrastructure provider that facilitates connection of said user to said network.
9. A messaging method as claimed in claim 8, wherein said infrastructure provider is an Internet service provider.
- 10 10. A messaging method as claimed in claim 1, wherein said message causes the display of an advertisement which includes an offer for products or services.
11. A messaging method as claimed in claim 1, wherein said personal information  
15 includes personal details to complete a commercial transaction and/or marketing information associated with said user.
12. A messaging method as claimed in claim 1, wherein said communications network includes the Internet and said locations include web pages.
- 20 13. A messaging system having components for executing the steps of a messaging method as claimed in any one of the preceding claims.
14. Messaging software having a code for executing the steps of a messaging method  
25 as claimed in any one of claims 1 to 12.
15. A messaging system, including:  
a database storing personal preference information for said user and a plurality of  
advertising messages for said user determined on the basis of said preference information;  
30 and  
a switch system and web server system for recording and categorising locations of

- 10 -

a communications network accessed by a user of the network as said locations are accessed, and sending one of said advertising messages to said user when the message matches a location category for a currently accessed location.

5 16. A communications access system having:

switch means and a web server system for monitoring locations of a communications network accessed by a user of the network as said locations are accessed, and sending advertising messages, including an offer for products or services, to said user when the probability of said user accepting an offer of said message is high based on said  
10 monitoring and personal information.

17. A communications access system as claimed in claim 16, wherein said personal information comprises a user profile with preference information and a plurality of said advertising messages that match said user profile, said messages including condition data  
15 representing a condition for sending the messages, and the system monitors access of the locations to determine when the condition is met.

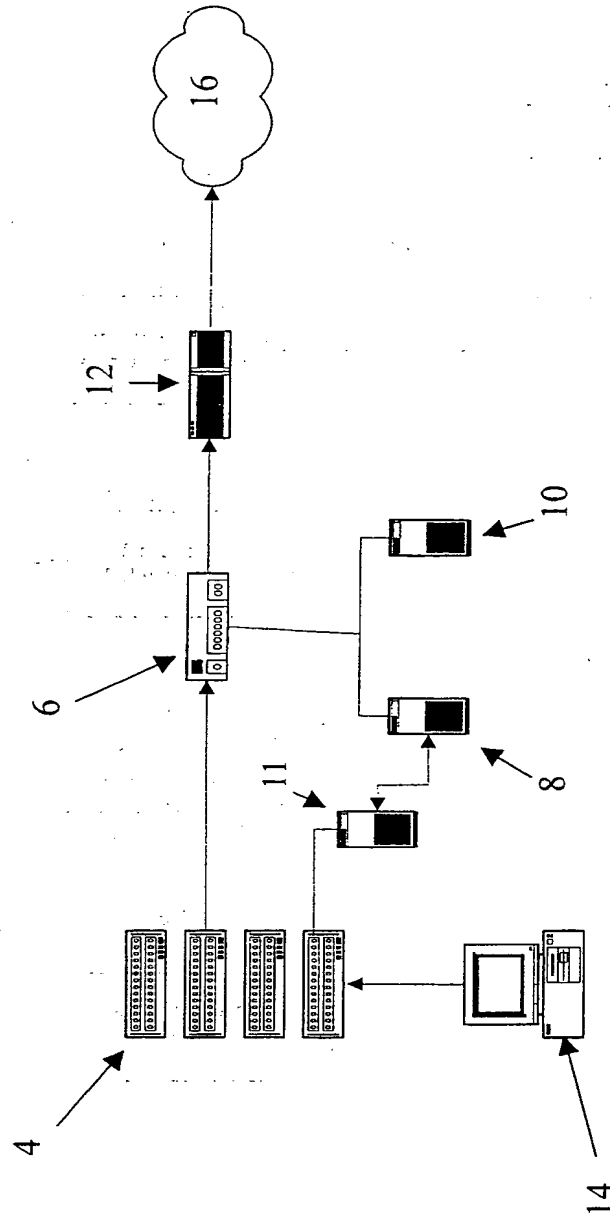


Figure 1

2/2

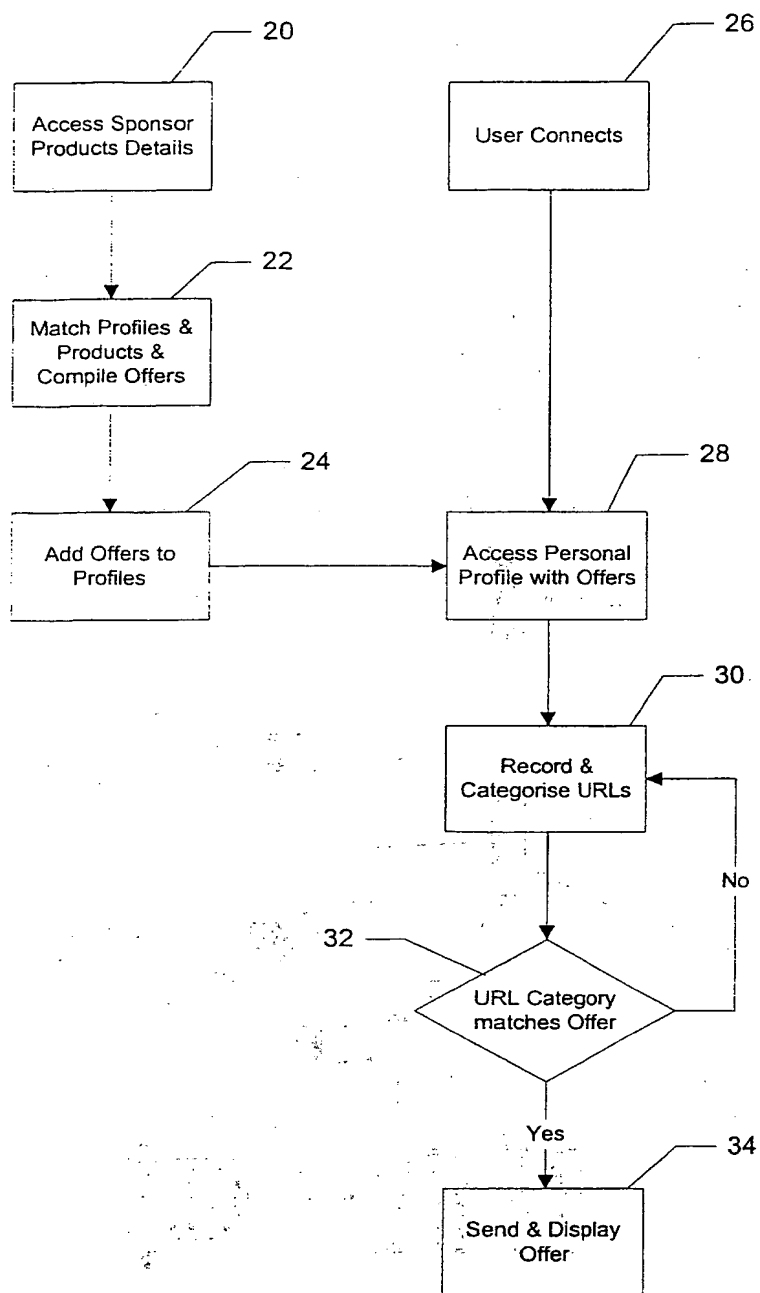
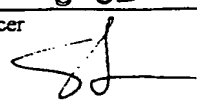


Figure 2

## INTERNATIONAL SEARCH REPORT

International application No.

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<b>A. CLASSIFICATION OF SUBJECT MATTER</b>												
Int. Cl. <sup>7</sup> G06F 17/60												
According to International Patent Classification (IPC) or to both national classification and IPC												
<b>B. FIELDS SEARCHED</b>												
Minimum documentation searched (classification system followed by classification symbols)												
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched												
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) WPAT - keywords USPTO - keywords												
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>												
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.										
X	US, A,5854897 (Radzuewick, et al) 29 December 1998 See whole document	1-17										
<input type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex												
<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"E" earlier application or patent but published on or after the international filing date</td> <td>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td>"&amp;" document member of the same patent family</td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	"P" document published prior to the international filing date but later than the priority date claimed	
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"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone											
"I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art											
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family											
"P" document published prior to the international filing date but later than the priority date claimed												
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

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PCT/AU00/00897

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report				Patent Family Member	
US	5854897	AU	58106/98	WO	9829810
					END OF ANNEX

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